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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/744,471

03/21/2001

Harald Haas

1934/49556

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23911

7590

10/19/2004

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EXAMINER

BHANDARI, PUNEET

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/744,471	HAAS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Puneet Bhandari	2666	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03/21/2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Specification***

The disclosure is objected to because of the following informalities: page 6B is missing paragraphs 15, 20 and 25 respectively. Appropriate correction is required.

***Claim Objections***

Claim 11 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim 11 fails to further limit delay tolerant packet data described in the claim 09.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicant fails to disclose the specific terminal included in the second plurality of terminals.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 01-06, 10,14, 16, 17,18 and 19 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Honkasalo et al. (U.S. 5,864,549)

Regarding claim 1, Communications system comprising a FDD duplexing is anticipated in "forward and reverse channel occupy different frequency bandwidth" column 5, lines 19-22.

The technique to enable communication between a first base station (macro cell or outdoor) network is anticipated in "typical outdoor cellular (macro cell)" column 5, line 19 and the first plurality of terminals.

TDD duplexing is disclosed in " lower part of Fig. 2" or column 5, line 35-38 technique to enable communication between second base station (micro cell) is anticipated by "indoor cellular network" column 1, line 37 and the second plurality of terminals

The first and second base station serving terminals in respective but atleast overlapping areas is anticipated in Fig.1.

In-order to increase the communications- handling capacity of the system provision is made for detecting spare capacity in a frequency band associated with the FDD technique is anticipated in "monitors continuously or at least very regularly the interference level " column 4, lines 53-55.

One-way component channels and for allocating spare capacity so detected to support TDD communication between said second base station and one or more of said plurality of terminals is anticipated by "Allocation of undisturbed channel for communication between Indoor Base Stations and Indoor Mobile Stations" column 4, lines 55-59.

Without interrupting contemporaneous FDD is disclosed in "The decentralized model" column 3, lines 34-39 communication between said first base station and said first plurality of terminals.

Regarding claims 2 and 4 the first multiple access scheme is one of CDMA, TDMA, SDMA or FDMA is associated with the first duplexing technique is disclosed in "system employs Code Division Multiple Access" column 6, lines 25-27.

Regarding claims 3 and 5 wherein the second multiple access scheme is one of CDMA, TDMA, SDMA or FDMA is associated with the second duplexing technique is disclosed in "TDMA (Time Division Multiple Access), CDMA or both" column 4, line 67 & column 5, lines 1-4.

Regarding claim 6, where in portion of the frequency allocation of the first duplexing technique is used to transmit FDD downlink traffic during substantially all time slots associated with the second duplexing technique is disclosed in "monitor the dynamically changing interference situations" column 04, lines 59-60.

Regarding claim 10, where the means provided for allocating spare capacity is anticipated by "detects a relatively undisturbed outdoor channel" column 04, lines 56-59

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is arranged to determine a band of frequencies within a respective frequency band associated with the first duplexing system on the basis of mutual interference criteria.

Regarding claim 12, wherein the second multiple access scheme has a guard time is anticipated by the “ guard interval introduced between the transmission and the reception time” see Column 06, lines 18-20.

Regarding claim 13, wherein the second base station is located between about 200 and 500 m “second system (indoor system) has a small cell size” column 01 lines 33-35, from the first base station.

Regarding 14 and 15 wherein the terminal is new terminal previously unaffiliated to the second base station or a particular terminal is disclosed in “ The new terminals communicates to base station according to the general principles of cellular radio networks.” column 06, lines 8-13.

Regarding claim 16, Method of improving capacity in a communications system comprising a FDD duplexing is anticipated in “forward and reverse channel occupy different frequency bandwidth” column 5, lines 19-22.

The technique to enable communication between a first base station (macro cell or outdoor) network is anticipated in “typical outdoor cellular (macro cell)” column 5, line 19 and the first plurality of terminals.

TDD duplexing is disclosed in “ lower part of Fig. 2” or column 5, line 35-38 technique to enable communication between second base station (micro cell) is anticipated by “indoor cellular network” column 1, line 37 and the second plurality of terminals

The first and second base station serving terminals in respective but atleast overlapping areas is anticipated in Fig.1.

In-order to increase the communications- handling capacity of the system provision is made for detecting spare capacity in a frequency band associated with the FDD technique is anticipated in “monitors continuously or at least very regularly the interference level ” column 4, lines 53-55.

One-way component channels and for allocating spare capacity so detected to support TDD communication between said second base station and one or more of said plurality of terminals is anticipated by “ Allocation of undisturbed channel for communication between Indoor Base Stations and Indoor Mobile Stations” column 4, lines 55-59.

Without interrupting contemporaneous FDD is disclosed in “The decentralized model” column 3, lines 34-39 communication between said first base station and said first plurality of terminals.

Regarding claim 17, Method of improving capacity in a communications system comprising a FDD duplexing is anticipated in “forward and reverse channel occupy different frequency bandwidth” column 5, lines 19-22.

The technique to enable communication between a first base station (macro cell or outdoor) network is anticipated in “typical outdoor cellular (macro cell)” column 5, line 19 and the first plurality of terminals.

TDD duplexing is disclosed in “ lower part of Fig. 2” or column 5, line 35-38

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technique to enable communication between second base station (micro cell) is anticipated by "indoor cellular network" column 1, line 37 and the second plurality of terminals

The first and second base station serving terminals in respective but atleast overlapping areas is anticipated in Fig.1.

Terminal being arranged to receive an allocation of atleast a portion of frequency band associated with the first duplexing technique and to operate in accordance with the second duplexing technique within said frequency band associated with the first duplexing technique is disclosed in "Indoor Mobile station (terminal) monitor the interference levels on a channels" Column 5 lines 62-67 and Column 6 line 1.

Regarding claim 18 and 19, Base Station in a system comprising a FDD duplexing is anticipated in "forward and reverse channel occupy different frequency bandwidth" column 5, lines 19-22.

The technique to enable communication between a first base station (macro cell or outdoor) network is anticipated in "typical outdoor cellular (macro cell)" column 5, line 19 and the first plurality of terminals.

TDD duplexing is disclosed in " lower part of Fig. 2" or column 5, line 35-38 technique to enable communication between second base station (micro cell) is anticipated by "indoor cellular network" column 1, line 37 and the second plurality of terminals

The first and second base station serving terminals in respective but atleast overlapping areas is anticipated in Fig.1.



In-order to increase the communications- handling capacity of the system provision is made for detecting spare capacity in a frequency band associated with the FDD technique is anticipated in "monitors continuously or at least very regularly the interference level " column 4, lines 53-55.

One-way component channels and for allocating spare capacity so detected to support TDD communication between said second base station and one or more of said plurality of terminals is anticipated by " Allocation of undisturbed channel for communication between Indoor Base Stations and Indoor Mobile Stations" column 4, lines 55-59.

Without interrupting contemporaneous FDD is disclosed in "The decentralized model" column 3, lines 34-39 communication between said first base station and said first plurality of terminals.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7,8,9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honkasalo et al.(U.S. 5864549) in view of Luders (U.S.6201819). Honkasalo teaches all the limitations of claims 7, 8, 11 and 9 (see 102 rejection for claim 1 above)

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expect Honkasalo does not expressly disclose transmission and receptions of delay tolerant packet data by the terminal operating with second duplexing technique within the band of frequencies allocated to first duplexing technique. Luders discloses the use of packet switched services within cellular telecommunications systems "mobile radio systems, whereby applications such as a mobile office with E-mail, fax, file transfer, point-of-sale implementations, fleet management, traffic control systems and other similar applications can be realized (delay –tolerant applications or data)" column 3, lines 08-15. At the time invention was made it would have been obvious to a person in ordinary skill in the art to add to the Telecommunication system of Honkasalo et al. packet switched services available in cellular telecommunication systems. Motivation being improved network resource utilization (column 1, lines 30-34 of Luders).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Puneet Bhandari whose telephone number is 571-272-2057. The examiner can normally be reached on 9.00 AM To 5.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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